**LESHAN GIANT BUDDHA, MOUNT EMEI (China, Buddhist)**  
Towering above the sheer river gorges of China’s Sichuan province, Mount Emei, one of the “Four Sacred Buddhist Mountains of China”, represents the main seat of Chinese Buddhism. It is home to the country's first Buddhist temple, built in the 1st century C.E., and contains numerous other temples, monasteries and religious shrines, including the 8th century Leshan Giant Buddha. This Tang Dynasty-era masterpiece is the world's largest Buddhist statue, reaching an awe-inspiring 71 meters in height and is 28 meters in width. Carved out of a face of a sandstone cliff facing Mount Emei, the Leshan Giant Buddha is surrounded by spectacularly lush and breathtaking subtropical and subalpine forests, and rests atop the confluence of three major rivers, the Minjiang, Dadu, and Qingyi. This site is a place of invaluable religious, artistic and natural significance.



Leshan Buddha in China, 2005, sandstone blackened and corroding from acid rain.

The Leshan Buddha has fallen victim to pollution emanating from unbridled development in the region. In this case, the culprit has been determined to be the growing number of coal fired power plants located near the Giant Buddha, specifically, the toxic gases that their smokestacks spew into the air; these eventually return to the earth as acid rain. Over time, the Buddha's nose has turned black and the curls of his hair have begun to fall from his head. The local government has shut down several factories and power plants in close proximity to the Leshan Giant Buddha, which has stopped the blackening of his face from soot; however, acid rain continues to compromise the structural integrity of this masterpiece. The Leshan Giant Buddha, which was designed carefully to survive millennia of floods and earthquakes, is now at high risk of rapid deterioration from the unbridled pace of industrial development in western China.

**2. ACROPOLIS OF ATHENS (Greece, Ancient Greek)**   
While there are many Acropolises in Greece, it is the Acropolis of Athens that is, without question, the most quintessentially important monument that carries the name; indeed, when historians refer to simply “the Acropolis”, it is the one in Athens that is being referenced. Located atop a flat rock rising 150 meters above the city of Athens, its three hectares of standing monuments from the Classic Periclean period (460-430 BCE) include the Parthenon, the Propylea, and the Erechtheum, as well as a few earlier Mycenean edifices such as the Cyclopean Circuit Wall that helped to defend the Acropolis from numerous invasions over the centuries. As the foundational center for Golden Age Athens and its way of thought, the Parthenon is widely considered to be the crucible of democracy and Western culture as we know it.



Hadrian's Arch at the Acropolis, Athens, 2005, marble blackened and corroding from acid rain.

In recent decades, as Greece has experienced substantial economic expansion and development, pollutants and heavy vehicle emissions from the booming modern city of Athens have contributed to acid rain in the region. The monumental and sculptural stone of choice for the ancient Greeks, marble, is highly susceptible to heavy surface degradation from even low levels of acid rain. The Parthenon’s magnificent marble relief frieze panels, for instance, have been chemically transformed by acid rain into soft gypsum. As details are lost and the chemical transformation soaks deeper into the marble on these vital monuments, pieces of them have begun to crack and fall off, with structural collapse a possibility in the not-so-distant future. Further complicating the situation is the seismically-active nature of the region, as earthquakes would have a far greater effect on marble constructions that have slowly transformed into gypsum than with unaltered marble.

**LONGMEN GROTTOES (China, Buddhist)**   
The Longmen Grottoes are arguably the most famous ancient sculptural site in China. Located in Henan Province and positioned on two opposing bluffs above the Yi River, most of the artwork is Buddhist in nature and dates to the late Northern Wei and Tang Dynasties (316-907 AD). 2345 niches were carved from the rock, densely worked over the space of approximately a kilometer to the north and south, and they house more than 100,000 statues (also carved from the rock). Accompanying inscriptions bear more than 300,000 Chinese characters and are a treasure trove of historical and linguistic data. The Longmen Grottoes are a masterpiece of Buddhist art and are considered one of the world`s most important sculptural sites.   
  
  
*Longmen Grottoes in 2005.*   
  
  
Through the centuries, natural and manmade factors have damaged the niches, sculptures and paintings. Crevices across the rock base are causing instability and have resulted in the collapse of some niches and the destruction of their contents. This process has been greatly accelerated by increased saline sediments resulting from acid rain, a major problem across much of China. Salt deposits have also built up in the niches themselves from slow permeation of acid rain into the rock, which then seeps into the niches through fissures in the rock, severely damaging and rapidly eroding many sculptures and paintings.